P1105 Urinary Tract Isolates of *Haemophilus parainfluenzae* are Distinct by Repetitive Extragenic Palindromic (REP)-PCR and Cellular Fatty Acid (CFA) Analysis

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Objectives: To assess heterogeneity of *Haemophilus* spp. using REP-PCR and cellular fatty acid analysis.

Methods: We defined *Haemophilus* spp. isolated from an adult predominantly male population by biochemical profile, site of isolation, REP-PCR pattern and CFA analysis (MIDI system).

Results: In contrast to *Haemophilus ducreyi*, which was homogeneous by all measures, both *H. parainfluenzae* and *H. influenzae* were heterogeneous. However a group of urinary tract isolates of *H parainfluenzae* clustered by CFA analysis at a Euclidean distance of 6 and showed a single PCR pattern and only a few biochemical profiles. These isolates occurred as both pathogens and normal urethral flora. *H parainfluenzae* from other sources gave about ten PCR patterns and CFA clusters. *H. parainfluenzae* and *H. influenzae* isolates from urine were not associated with concurrent respiratory infection.

Conclusion: REP-PCR and CFA pattern analysis can distinguish a cryptic group of urinary tract isolates of *Haemophilus parainfluenzae* that can be clinically significant.

P1106 Polish National External Quality Assesment Scheme for Microbiology (POLMICRO)

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Objectives: Microbiology Laboratories throughout the world participate in external quality assessment schemes, often as a prerequisite for accreditation. The POLMICRO established in December 1993 provides a quality assessment scheme service in bacteriology and antibiotic susceptibility testing (AST).

Methods: Participation was voluntary although it was strongly recommended, especially for laboratories chaired by district consultants. 5–6 samples for bacterial identification and antibiotic susceptibility testing were dispatched in each distribution. Participants were given one month to examine and return the results. All participating laboratories were informed about their overall performance and where necessary comments were made in an effort to improve the standards of testing.

Results: The number of participants in the POLMICRO varied from 81 to 100 laboratories. Over the three assessment periods the percentage of participants returning reports that were considered satisfactory was increased from 27% to 76%. Results of identification were generally acceptable except for *Streptococcus pneumoniae*. Most discrepancies in the scheme were in the area of AST. This was presumably because there are more technical and interpretative procedures. About 50% of participants in 1993 and 1995, and 6% in 1996 failed to detect methicllin resistance of *S. aureus*. The error rates seen in the last two years with penicillin-resistant *S. pneumoniae* and with enterococci highly resistant to aminoglycosides were found to be 13% and 26%, respectively.

Conclusion: During the three year period an important increase in quality of microbiology laboratory performance was observed.

Chlamydia and ureaplasma

P1107 A Novel Assay that Detects and Differentiates *Chlamydia trachomatis* and *Neisseria gonorrhoeae* Using Transcription Mediated Amplification

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Objective: Develop an assay that detects and differentiates both *Neisseria gonorrhoeae* and *Chlamydia trachomatis* rRNA from male and female urine and swab specimens.

Methods: Target rRNA is captured out of matrix onto magnetic particles as a sample processing method (target capture) that effectively removes inhibitors of nucleic acid amplification. The target rRNA is amplified by Transcription Mediated Amplification (TMA). The amplification products are hybridized with two different acridinium ester-labeled oligonucleotides that are each specific for the two target organisms. Kinetic differences in the light-off reactions of the two acridinium ester labels, following a hybridization protection assay, allow for the deconvolution of the signal, and the detection of the two analytes in one assay.

Results: Male and female urine samples (n = 101) were tested in a blind study. The assay had a sensitivity of 96.4% (27/28), and a specificity of 100% for *Chlamydia trachomatis* against the Gen-Probe AMP CT assay. Fifty five endocervical swabs were assayed with Gen-Probe's PACE 2 assay as the reference. The dual analyte assay was 100% sensitive (8/8), and 97.9% specific (46/47) for *Chlamydia trachomatis*. In 10% blood in urine, at the single organism target rRNA level, the TMA reaction was not inhibited following target capture. In the presence of one million *Neisseria meningitidis* cells, the target level equivalent of a single *Neisseria gonorrhoeae* cell could be detected. A urine transport buffer compatible with this assay has been defined.

Conclusion: This assay is being designed in concert with an instrument that totally automates sample processing, amplification, and detection.

P1108 Single-Test Detection of Amplified rRNA from *Chlamydia trachomatis* and *Neisseria gonorrhoeae* on the VIDAS Instrument

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A single, rapid and sensitive automated test for the simultaneous detection of *Chlamydia trachomatis* (Ct) and *Neisseria gonorrhoeae* (Ng) is being developed on the VIDAS. This test uses spatially separated probes bound to the VIDAS dispensing tip (called the SPR) for specifically capturing Ct and Ng rRNA sequences amplified by the transcription-mediated amplification (TMA) technology. If both organisms are present in a sample, the rRNA from each is co-amplified in a single reaction and individually detected in one VIDAS test strip. Signal is produced from alkaline phosphatase labeled probes which are specific for each amplicon and hybridize to their respective targets during the single capture hybridization step. Total assay time, including amplification and detection (but excluding sample processing steps), is about three hours. Discrete results are generated for the presence or absence of each target sequence. In model assays using purified rRNA molecules, the sensitivity of this test was about 100 Ct rRNAs (equivalent to less than one elementary body) and 4000 Ng rRNAs (equivalent to roughly two cells). These sensitiv-

ities were only minimally affected when mixed with a large excess of rRNA from the other organism. Assay parameters are currently being optimized for discriminating *Neisseria gonorrhoeae* from *Neisseria meningiditis* and for dealing with true samples in clinical matrix. The availability of a single automated test for Ct and Ng – based on TMA technology – is an important step in the diagnosis of these sexually transmitted diseases.

P1109 Development of an Amplified VIDAS Test for the Detection of *Chlamydia trachomatis* from Urogenital Samples

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Objective: To develop a rapid, automated and amplified test for specific and sensitive detection of *Chlamydia trachomatis* from urogenital samples.

Methods: *Chlamydia trachomatis* rRNA was amplified from Panels of clinically important serovars and urogenital samples using Transcription Mediated Amplification (TMA) followed by enzyme-linked fluorescent detection within the standard bioMérieux VIDAS immunoassay instrument. Additionally, the amplified products were also analyzed using Gen-Probe's Hybridization Protection Assay (HPA).

Results: A total of 120 cervical swabs and 78 urine (29 female, 49 male) were tested. The data showed a 100% correlation between VIDAS and HPA detection. All culture and PACE (Gen-Probe) positive samples were detected by the VIDAS assay. Analytical sensitivity was equivalent to 0.5 fg of rRNA (1/10th of an elementary body). Clinical isolates containing blood and mucosal residue were not inhibitory to both amplification and VIDAS detection. The results were obtained in less than 2 hours.

Conclusion: These results provide the basis for the development of a amplified, rapid and automated assay for the detection of all clinically relevant species of *Chlamydia trachomatis.*

P1110 Performance of the TMA-CT in males and females for the detection of *Chlamydia trachomatis* in first voided urine

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Objectives: A prospective evaluation to determine the performance of a new commercially available amplification assay, the TMA-CT (Genprobe Inc) for the detection of *C. trachomatis* (Ct) in urine specimens in comparison with culture.

Methods: From February 1996 to July 1996, urine samples for TMA-CT and urethral and cervical (if applicable) swabs for cell culture were collected from 1000 patients (544 men and 456 women) Discordant results were analyzed using an in-house PCR on both original samples as well as on material obtained from the culture wells.

Results: In 130 (13%) patients one or more positive test results were obtained. Seventy (7%) of the TMA-CT and cell culture results were discordant. After resolution of the discordant results, the sensitivity, specificity, positive and negative predictive values of the TMA-CT were 84.3, 98.8, 89.6 and 98% for females and 100, 99.2, 93.1 and 100% for males respectively, while for cell culture these values were 72.5, 99.2, 92.5 and 98% for females and 57.4, 99.0, 86.1 and 95.4% for males, respectively.

Conclusions: We conclude that the TMA-CT is a fast and reliable test to detect *C. trachomatis* in urine specimens in females and, in particular, males.

P1111 Performance of Three Commercially Available Amplification Assays for the Detection of *Chlamydia trachomatis* in First Voided Urine

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Objectives: An prospective evaluation was done to determine the performance of the LCR (LC_x, Abbott Labs), PCR (COBAS AMPLICOR, Roche Diagnostic Systems) and TMA (Genprobe Inc) for the detection of *C. trachomatis* (Ct) in urine.

Methods: From 1000 patients, first voided urine, urethral specimen and cervical specimen (if applicable) were obtained. Sensitivity and specificity were calculated using a new golden standard; A sample was considered to be true positive if two or more techniques were positive. Discrepant results were retested using an in-house PCR.

Results: The prevalence in males and females was 12.1% and 12.5%, respectively. The sensitivity and specificity of cell culture was 56 and 99% respectively. The sensitivity of LCx, COBAS AMPLICOR and TMA was 84%, 93% and 85%, respectively. A decreased sensitivity was observed when using female urines. The specificity exceeded 99% for all amplification techniques. The ability to obtain a positive signal was correlated with the leucocyte concentration in urine. A significantly decreased sensitivity of a amplification assays was observed in urines with less than 5 leucocytes per ul.

Conclusions: We conclude that urine may serve as an adequate alternative patient specimen for the detection of *C. trachomatis* when using amplification assays. The sensitivity of the amplification assays for the detection of *C. trachomatis* in urine strongly depends on the sex of the patient and the presence of leucocytes in urine. The COBAS AMPLICOR seems to be least affected by this phenomenon.

P1112 Detection of Prevalence of Infections with Chlamydia trachomatis (CT) in an Obstetrics and Gynaecological (O&G) OPD by Molecular Analysis of Urine Samples

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Objectives: Assessment of prevalence of infections with Chlamydia trachomatis (CTI) in an O&G OPD by molecular urine analysis.

Methods: New patients from our inner city O&G OPD were invited to participate in the study. Cervical (C), urethral (U) and anal swab specimens were taken from patients for detection of CT-DNA (Gen-Probe, PACE 2®). Urine samples were collected for detection of CT-rRNA (Gen-Probe, Amplified®).

Results: During the first 4 months of our study 599 patients were enrolled, of which 120 patients refused participation. Of 479 remaining patients, 16 were found positive in either the C- and/or the U- swab or in the urine assay. In this group the prevalence of CT infection (CTI) is 3.3%. Of 16 patients with CTI, the probe

was positive in 14 cases: 10 × C and 4 × U. Two patients with a positive C turned out to be negative in urine analysis. Of two remaining patients with CTI detected by positive urine-test, only one had negative probes, for the other none were available.

Conclusions: 1. The prevalence of CT determined so far in our population is 3.3%. This figure is low compared to the 6% as was found in other inner city hospitals. 2. Molecular urine analysis for CT appears to be a reliable and easy method for population studies, in comparison with cervical- and urethral-swab techniques.

P1113 Performance of the Cobas Amplicor and the LCx on Invasive and Non-Invasive Samples for the Diagnosis of Genital Chlamydial Infections

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Objective: To compare the performance of the COBAS AMPLICOR CT test and the LCx *Chlamydia trachomatis* assay using invasive and non-invasive samples in women and men and evaluate with culture.

Methods: The study was performed in a total of 467 patients (264 men and 203 women) examined for a genital chlamydial infection.. In males, urethral and urine samples and in females, samples from the endocervical canal, vulval region, and urine were tested by both DNA amplifying methods and compared with culture on urethral or endocervical specimens. Discrepant results were analysed by the DFA and MOMP-PCR and calculations were assessed by a gold standard based on the number of infected persons. Inhibition was tested by the use of an internal control available for the COBAS AMPLICOR.

Results: Evaluating the results for all different tests for all sampling sites, 13 women (6.4%) and 34 men (12.9%) were infected with *C. trachomatis.* In women, the detection rate for infected women was 92.3% for cervical, vulval, and urine samples tested by the LCx and 92.3% for cervical and urine specimens and 84.6% for vulval smears, respectively, tested by Cobas Amplicor. In the 34 infected men, the sensitivity for both, COBAS AMPLICOR and LCx was 91.2% for urethral specimens, 85.3% for the PCR and 79.4% for the LCR for urine. The concordance of both amplifying methods was high in men (95%) and women (99%). The sensitivity for culture was low (men 47.1%; women 61.5%).

Conclusion: The results indicate that both amplifying methods, the COBAS AMPLICOR and LCx showed a high sensitivity for all different sampling types of men and women. Non-invasive samples such as urine and vulval smears can substitute sampling from the cervix and urethra when using amplification assays.

P1114 Inhibitors of LCR *Chlamydia Trachomatis* Amplification in Female Urine Specimens

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Objectives: To determine the prevalence of inhibitors of LCR *Chlamydia trachomatis (Ct)* amplification in urine specimens in relation to the microscopical findings of the urine sediment and to evaluate the efficacy of dilution to remove inhibition.

Methods: By microscopical examination 40 female urines were selected and divided in four groups of 10 specimens each with resp. no abnormal findings (I), leukocyturia (II), hematuria (III) and marked cristaluria (IV). Specimens were analysed for *Ct* with the LCX system (Abbott) according to instructions of the manufacturer and spiked with *Ct* calibrator in a final dilution of 1/10. Inhibitory specimens were retested diluted 1/10 in urine specimen buffer. Inhibition was defined as a reaction rate below the cutoff.

Results: Inhibitors were present in 0%, 40%, 55% and 50% resp. in group I, II, III, IV. The mean % inhibition was resp. 0%, 25%, 18% and 70%. LCR inhibition was removed by dilution in 3/4, 4/5, 3/5 urines in resp. group II, III, IV. The mean % of inhibition remaining after dilution was 7%, 13% and 66% in resp. group II, III, IV.

Conclusion: Urine specimens with leucocyturia or hematuria show moderate LCR inhibition, usually removable with dilution. In urine specimens with cristaluria strong LCR inhibition was demonstrated not always removable with dilution.

P1115 Comparison of Gen-Probe TMA and Roche Cobas Amplicor CT for Detection of *Chlamydia trachomatis* from Urine Specimens

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Objectives: To compare TMA with Amplicor PCR in the detection of chlamydial infection by using urine specimens.

Methods: The patients consisted of 339 men and 321 women. Urine specimens were prepared for TMA and Amplicor PCR as instructed by the manufacturers within 24 h after specimen collection. Both assays were performed according to the manufacturers' instructions. The internal control protocol was used in conjunction with the Cobas Amplicor PCR assay for all specimens. The discrepant analysis was based on repeated testing of the specimens and, when necessary, second sampling and review of the clinical data.

Results: The results of the two tests were identical for 652 (98.8%) of the 660 patients. Among them, the test results were uniformly positive for 63 patients. Two true positive specimens were negative by PCR. These false results could not be accounted for by inhibition. Moreover, there were six specimens that gave positive results by PCR in the first run but turned negative on repeated testing of the specimens. They were considered as false positives by the PCR. By the TMA, no false positive results occurred.

Conclusions: TMA proved to be sensitive and specific in detecting *C. trachomatis* in this high risk material. Somewhat unexpectedly, both false positive and false negative results occurred in the automated Cobas Amplicor PCR assay.

P1116 Cost-Benefit Analysis of Universal First Void Urine Chlamydia Trachomatis Screening Program

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Background: Cost analyses are still rare among trials that compare pharmacological or procedural health care interventions.

Objectives: To evaluate whether secondary prevention of Chlamydia trachomatis infection and associated morbidity in asymptomatic women is cost-beneficial.

Methods: We developed a decision tree model, and performed a cost-benefit analysis of a Chlamydia trachomatis screening program based on first void urine testing of asymptomatic women using a PCR test. Selected variables based on assumptions were subjected to sensitivity analysis in order to make the model accurate and defensible.

Results: The results showed that screening for chlamydial infections using the PCR test is cost-beneficial in most situations. Compared to a no-screening-situation, the direct cost of a universal

C. trachomatis screening program with PCR would be less than the direct costs of complications caused by chlamydial infections when the baseline prevalence of C. trachomatis infection exceeds 3.9%.

Conclusion: Socioeconomic studies linking secondary prevention of C. trachomatis infection and infertility/adverse pregnancy outcome are needed in order to convince public health authorities of the need and benefit of such programs.

P1117 Performance of the GEN-PROBE Amplified Chlamydia Trachomatis Assay

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Objective: To evaluate the performance of the GEN-PROBE Amplified Chlamydia Trachomatis (AMP CT) assay.

Method: AMP-CT was compared to cell culture for female endocervical swabs and urine specimens and male urethral swabs and urine specimens. Resolution of discrepant specimens was performed utilizing a combination of reculture, direct fluorescence antibody (DFA) staining of specimen sediment, and amplification which targeted a different chlamydial rRNA. Endocervical swab specimens were collected from 717 female patients. Urine specimens were collected from 607 female patients. Urethral swab specimens were collected from 209 male patients. Urine specimens were collected from 193 male patients.

Results:

Specimen	No.	AMP CT No. Pos	%Pos.	%Sens.	%Spec.	PPV	NPV
Female Urine	607	29	4.8	93.6	99.5	90.6	99.7
Male Urine	193	23	11.9	88.4	100	100	98.2
TOTAL	800	52	6.5	91.2	99.6	94.6	99.2
Female Swabs	717	39	5.4	100	100	100	100
Male Swabs	209	31	14.8	100	100	100	100
TOTAL	926	70	7.6	100	100	100	100

Conclusion: The GEN-PROBE Amplified Chlamydia Trachomatis assay is a sensitive and specific nucleic acid hybridization assay for the detection of *Chlamydia trachomatis* in endocervical and male urethral swab specimens and female and male urine specimens.

P1118 Comparison of a Commercially Available PCR and LCR Test in the Detection of Urogenital *Chlamydia trachomatis* Infection

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Objectives: To compare the diagnostic performance of a PCR test (Roche COBAS® AMPLICOR™ CT/NG Test) and an LCR test (ABBOTT LCx® *Chlamydia trachomatis* Assay) with endocervical/urethral culture as a reference test.

Methods: First-void urine (FVU) and endocervical/urethral swab (S) specimens were collected from 1015 patients attending an STD clinic and an adolescent clinic in Helsinki, Finland. C. *trachomatis* was cultured from the endocervix or urethra. PCR was performed on urine, and the culture medium. LCR was performed on urine and LCx swab transport medium.

Results: C. *trachomatis* infection was detected by culture in 6.0%, by S-PCR 7.8%, FVU-PCR in 7.6%, by S-LCR in 6.6% and by FVU-LCR in 6.9%. All five tests gave a positive result in 54 patients.

Conclusions: Endocervical or urethral culture under-estimates the prevalence of C. *trachomatis* infections in a population. Both PCR and LCR performed on swabs and FVU were sensitive and specific in detecting C. *trachomatis* infection.

P1119 Prevalence of Antibodies to Chlamydia as Measured by EIA and MIF in Relation to Sexual Behaviour

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Objective: To compare the microimmunofluorescence (MIF) test and a novel peptide based Enzyme Immunoassay (EIA) for detection of antibodies against C. *trachomatis.*

Materials: Among 1002 Swedish women, an age-matched subsample of 274 women was stratified according to lifetime number of sexual partners. Sera from 49 women with only 1 lifetime partner (mean age 29.1, range 17–47) and from 43 women with >10 lifetime partners (mean age 29.7, range 17–46) were analyzed.

Methods: A chlamydia species-specific MIF test (MRL Diagnostics, California) with LPS-removed elementary bodies (EBs) from C. *pneumoniae* (Cpn), C. *trachomatis* (Ctr) and C. *psittaci* (Cps) was used to detect IgG and IgA antibodies against chlamydia. An EIA test (Labsystems, Finland) was used for detection of IgG and IgA antibodies to Ctr.

Results: Women with >10 partners had significantly higher prevalence of IgG and IgA antibodies to Ctr as compared to women with one lifetime partner ($p < 0.0000001$); on the contrary, such a difference was not seen of antibodies to Cpn ($p = 0.31$). Sensitivity of the Ctr EIA, with MIF as gold standard, was 100% for IgG and IgA, while specificity was lower: 87% and 76%, respectively.

Conclusions: Prevalence of antibodies to Ctr is dependent of the number of sexual partners, whereas it is not to Cpn. The use of LPS-removed EBs as antigen in the MIF-test enables the differentiation between Ctr and Cpn antibodies. The Ctr EIA used is very sensitive; however, a positive result needs confirmation by MIF.

P1120 Genitourinary Infection by Chlamydia Trachomatys in Pregnant Women

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Objectives: The purpose of the study was to evaluate the risk of Chlamydia trachomatis infection in pregnant women in our geographical area.

Methods: A total of 104 pregant women (age 19–42) attending the Clinic of Gynaecology and Obstetrics, University of Rome "La Sapienza", were examined for the presence of the pathogen. The women selected for the study were between weeks 30 and 39 of gestation with unbroken membranes. The women treated with antibiotic active against C. trachomatis were excluded. Endocervical and urethral samples were taken with cotton-tipped swabs. The specimens were processed using two methods: McCoy cells (CMC) treated with cycloheximide and direct test using fluroescein conjugated monoclonal antibodies (DFA). At the time of the enquiry the women presented: vaginal discharge (11.5%); urethritis (4.8); cervicitis (2.8%); vaginitis (9.6%); vulvar prurigo (14.4%); asymptomatic (56.7%).

Results: C. trachmatis was detected by CMC and/or DFA in 12/104 (11.5%) women; 3 in the cervix only; 6-chlamydia-positive in both sites, 3 in the urethra only. These women presented: 3 vaginal discharge, 1 urethritis and 8 asymptomatic.

Conclusions: We have found that 8/12 (66.6%) or our pregnant women were C. trachomatis-positive and asymptomatic. It is therefore important to recognize C. trachomatis infection to prevent complications such as premature rupture of membranes, preterm labor and low birth weight. We can suggest that a correct search of C. trachomatis in pregnant women should be done on specimens both from the cervix as from the urethra.

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P1121 Prevalence of Chlamydia Trachomatis among Male Clients of the Prostitutes: Evaluation with Demographic and Epidemiologic Findings

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In this study, we investigated the prevalence of C. trachomatis among 300 men who had sexual contact with prostitutes in Istanbul. All study participants were interviewed regarding demographic factors and sexual activity. They voluntarily answered all questions. C. trachomatis was studied in urethral samples by the direct fluorescent assay (DFA; Syva, Micro Trak, USA). The mean age of the study participants was 23 ± 7.3 Of the men who took place in this study, 51 (17%) were graduated from primary schools, 71 (23.7%) secondary schools 104 (34.7%) high schools and 74 (24.7%) universities. 289 (96.3%) of the men have been living in Istanbul for the last five years. It was revealed that of the men 138 (46%) were single and lived with their parents, 65 (21.7%) were single and lived alone and 97 (32.3%) were married. The mean age of the men for the first sexual contact was found to be 18 ± 2.3. 272 (90.7%) of men were found to have their first sexual experience in a brothel. 226 (75.3%) of the clients of the prostitutes had sexual contact once a week. Of these men 28 (9.3%) had the last sexual contact with a registered woman, 242 (80.7%) with an Eastern European woman. 205 (68.3%) of the men used condom during sexual contact with prostitutes. 189 (92.2%) of condom users decided themselves to use condom. 296 (98.7%) of the men were mostly concerned about AIDS when they had sexual contact with prostitutes. 182 (60.7%) of the patients had a previous history of STD before this study. The prevalence of C. trachomatis among these men was found to be 12%.

P1122 Evaluation of the Risk of Developing Bacterial Pelvic Inflammatory Disease (PID) in Pregnant Women Prior to Endometrial Curettage

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Objectives: To determine the prevalence of the agents colonizing the endocervix in pregnant women that would undergo curettage operation and to evaluate the effects of preoperative screening and treatment programs on postoperative infection morbidity.

Methods: Enzyme Linked Fluorescent Assay (ELFA) technique (VIDAS Chlamydia, bioMerieux, France) was used for detecting chlamydial antigens in endocervical specimens. Enrichment media were used for isolation and identification of *N. gonorrhoeae, M. hominis, U. urealyticum* and the other bacterial pathogens. The results were evaluated statistically.

Results: The rate of endocervical colonization with one or more different bacterial species in 203 pregnant women referred to endometrial curettage was 53.7%. Of these, 41.4% was due to *U. urealyticum*, 15.8% *M. hominis*, 8.9% *C. trachomatis* and 2.0% were group B streptococcus. In none of the cases *N. gonorrhoeae* was isolated. PID developed within 7 days in 5.4% of the women. PID developed in 22.2% of women positive for *C. trachomatis*, in 6.3% positive for *M. hominis* and in 2.4% positive for *U. urealyticum*.

Conclusion: According to our results, a significantly high risk for PID was observed ($P = 0.097$, $\alpha = 0.05$) in women with colonization of endocervical canal with *C. trachomatis*.

P1123 The Role of Chlamydia in Pelvic Inflammatory Diseases

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394 women with pelvic inflammatory diseases (PID) were investigated. 75 of them had urethritis, 69 cervicitis, 47 acute endometritis, 61 chronic endometritis, 59 salpingo-ophoritis, 31 salpingitis, 24 acute endometritis, salpingo-ophoritis and cervicitis, 18 chronic endometritis and salpingo-ophoritis. Detection of Chlamydia antibodies by immunoenzyme analysis and direct immunofluorescent test (MicroTrak Chlamydia Direct specimen test, Syva, USA) were used to diagnose the Chlamydia infection.

Antibodies to *Chlamydia trachomatis* were found in 64.4% of urethritis patients, 67.3% of those with cervicitis, 83.7% with acute endometritis, 80.3% with chronic endometritis, 69.2% with salpingo-ophoritis, 87.5% with salpingitis, 80.9% with acute endometritis, salpingo-ophoritis and cervicitis, 84.6% with chronic endometritis and salpingo-ophoritis.

Chlamydia trachomatis were found in 39.4% of urethritis patients, 52.3% of those with cervicitis, 26.1% with acute endometritis, 28.3% with chronic endometritis, 46.2% with salpingo-ophoritis, 43.9% with salpingitis, 41.6% with acute endometritis, salpingo-ophoritis and cervicitis, 35.7% with chronic endometritis and salpingo-ophoritis.

P1124 Evolution of the Frequency of Chlamydial Trachomatis Genital Infection in Women during 5 Years

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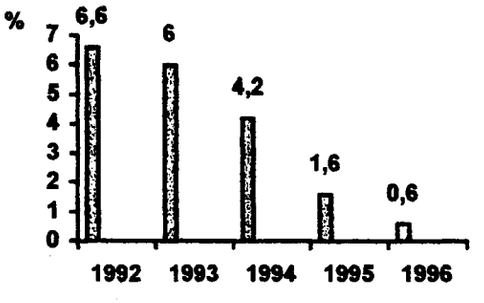
Objetives: Study the evolution of the frequency of chlamydial trachomatis genital infection in patients with suspicion of STD or in patients in control of pregnancy.

Methods: Between 1992 and 1996, 2520 patients, coming from the consultations of gynecology and obstetrics of the H.U. Santa Cristina, were studied to which carried out them vaginal and cervical exudate for the search of Chamydia and another STD. During the years 1992, 1993 and 1994, the technique was ELISA (Pasteur)



and IFD (bioMérieux) in parallel. During 1995 and 1996, was used a rapid DNA probe test which utilizes the technique of nucleic acid hybridization for the detection of Chlamydia trachomatis (Gen. Probe®) and ELFA (VIDAX-bioMérieux).

Results: The global frequency of Chlamydia trachomatis was from 1.6% in 5 years. The distribution according to the years was like expressed in the graph.

Conclusions: we have found a significant descent ($p < 0.05$) in the last years in the isolation of Chlamydia trachomatis, in spite of using more sensitive techniques and of the increase of the studied population.

P1125 Evolution of the Frequency of Ureplasma Urealyticum and Mycoplasma Hominis in Women during 5 years

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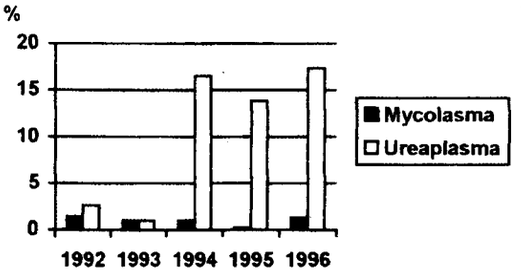
Objectives: Know the frequencies of isolations of genitals mycoplasmas in women for 5 years and the clinical symptoms associates.

Methods: we have studied 2520 patients from the consultations of gynecology and obstetrics, between the years 1992 and 1996, to which carried out them vaginal and cervical exudate for the investigation of genital mycoplasmas and another STD. Transport medium was inoculated onto A7 agar plates wich were incubated at 37°C in an anaerobes jar for 5 days and examined at second day of incubation for evidence of caracteristic colonial morphotypes of mycoplasmas. Positive was considered a recount $\geq 10^4$ UFC.

Results: The global frequency of genitals mycoplasmas in 5 years was from 14.3% for Ureaplasma urealyticum and 0.15% for Mycolasma hominis.



Conclusions: The frequency of isolation of Ureplasma urealyticum has increased significantly ($p < 0.05$) in the last 5 years. There have not been significant differences ($p < 0.05$) in the isolation of Mycoplasma hominis in the 5 years studied.

P1126 Antimicrobial Susceptibility of *Ureaplasma urealyticum* from Clinical Specimens

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Introduction: The emergence of resistance of *Ureaplasma urealyticum* to the usually prescribed antibiotics, presents a challenge in the clinical practice.

Objectives: To identify, enumerate semicuantitatively, and study the susceptibility of six antibiotic, Doxycycline (DOX), Josamycin (JOS), Ofloxacin (OFL), Erythromycin (ERY), Tetracycline (TET) and Pristinamycin (PRJ).

Methods: Ninety *U. urealyticum* strains were isolated from urine, semen and exocervix specimens. The study was followed up with the commercial system Mycoplasma IST (BioMérieux) to determine whether the ureaplasma count in the specimen is equal to or greater than threshold set at 10 CCU (colour changing unit), and the susceptibility pattern. Subcultures were performed soon after the media change the colour, using the solid media A7 agar (Remel Laboratories). The susceptibility and resistance for each antibiotic were, respectively: DOX ($\leq$4 mg/l, $\geq$8 mg/l), JOS ($\leq$2 mg/l, $\geq$8 mg/l), OFL ($\leq$1 mg/l, $\geq$4 mg/l), ERY ($\leq$1 mg/l, $\geq$4 mg/l), TET ($\leq$4 mg/l, $\geq$8 mg/l), PRI (<2 mg/l, >2 mg/l).

The results are shown in the following table:

	DOX	JOS	OFL	ERY	TET	PRI
%S	93.4	86.8	37.4	5.5	85.7	95.6
%I	3.3	9.9	53.8	6.6	7.7	0
%R	3.3	3.3	8.8	87.9	6.6	4.4

Conclusions: *U. urealyticum* isolates showed 87.9% of resistance to Erythromycin, and 6.6% to Tetracycline. The frequency of acquired resistance does not justify modifications in the usual treatment of genital mycoplasma infections, but leads to monitor their susceptibility to antibiotics.

P1127 Susceptibility of *Ureaplasma urealyticum* to Antibiotics

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Objectives: Our goal was to determine the in vitro susceptibility of *Ureaplasma urealyticum* (*U.u.*) isolates to doxycycline, tetracycline, erythromycine and ofloxacin.

Methods: *Ureaplasma urealyticum* has been isolated and determinated semiquantitatively on *Mycoplasma Lyo* agar (bioMerieux, Lyon, France). The antimicrobial susceptibility testing was performed with commercial test *Mycoplasma IST* (bioMerieux).

Results: During three months period we had 1012 samples (163 samples of male urethra and 849 cervical samples). *Ureaplasma urealyticum* was isolated from urethral samples in 25 men (15.0%) and from cervical samples in 167 women (19.6%). In men *Ureaplasma urealyticum* was isolated in significant number ($\geq 10^4$) in 18 samples (72.0%), and in low number ($\leq 10^3$) in 7 (28.0%) samples respectively. In women *U.u.* was isolated in significant number in 49.7%, and in low number in 50.3% samples, respectively. The antimicrobial susceptibility was as follows: strains were susceptible on doxycycline in 97.7% and resistant in 2.3%; on ofloxacin in 43% susceptible, in 48.8% moderately susceptible and in 2.3% resistant; on erythromycin in 1.2% susceptible, in 50.0% moderately susceptible and in 48.8% resistant; on tetracycline in 95.4% susceptible and in 4.5% resistant.

Conclusions: The emerging resistance of *Ureaplasma urealyticum* to certain antibiotics emphasizes the need for further surveillance studies on the clinical isolates of such organisms.

Sexually transmitted diseases, papillomavirus

P1128 Sexually Transmitted Diseases in Senegalese Women

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Objectives: To assess the incidence of sexually transmitted